Claims

1. (ORIGINAL) A method for compression molding of poly(arylene ether) powder, comprising :

introducing a powder comprising unheated poly(arylene ether) powder to compaction equipment comprising a compression mold; and

subjecting the powder in the compression mold to a pressure sufficient to produce an article having a density greater than the unheated poly(arylene ether) powder wherein said pressure is at a applied temperature less than the glass transition temperature of the poly(arylene ether) powder.

2. (ORIGINAL) The method of Claim 1 wherein the pressure is about 0.05 to about 50 tons per square centimeter, the temperature is about 0 to about 70°C and the pressure is applied for about 0.1 to about 100 seconds.

3. (ORIGINAL) The method of Claim 2, wherein the article has a compressive strength of about 5 to about 3000 kilograms.

4. (ORIGINAL) The method of Claim 2, wherein the article has a density of about 0.6 to about 1.2 grams per cubic centimeter.

5. (ORIGINAL) The method of Claim 1 wherein the pressure is about 0.2 to about 20 tons per square centimetre, the pressure is applied for about 300 to about 2000 second and the temperature is sufficient to at least soften the poly(arylene ether) powder and/or a binder when present.

6. (ORIGINAL) The method of Claim 5 wherein the article has a compressive strength greater than about 4000 kilograms and a density of greater than or equal to about 0.95 grams per cubic centimeter.

7. (ORIGINAL) The method of Claim 5 wherein the poly(arylene ether) is processed to remove or reduce gas trapped between the particles.

8. (ORIGINAL) The method of claim 1, wherein the powder further comprises a binder, a flame retardant, an additive, a modifying agent or a combination of two or more of the foregoing.

9. (WITHDRAWN) The method of claim 8, wherein the binder is crystalline and has a melt temperature less than the glass transition temperature of the poly(arylene ether) powder.

10. (ORIGINAL) The method of claim 8, wherein the binder is amorphous and has a glass transition temperature less than the glass transition temperature of the poly(arylene ether) powder.

11. (WITHDRAWN) The method of claim 8, wherein the binder is a reactive binder.

12. (ORIGINAL) The method of claim 8, wherein the binder is a non-reactive binder.

13. (ORIGINAL) The method of claim 8, wherein the additive is selected from the group consisting of antioxidants, mold release agents, ultra violet absorbers, stabilizers, lubricants, plasticizers, pigments, dyes, colorants, antistatic agents, blowing agents, and mixtures thereof.

14. (ORIGINAL) The method of claim 8, wherein the binder is present in an amount of about 0.01 to about 40 weight percent, based on the total weight of the mixture.

15. (ORIGINAL) The method of claim 1, wherein the compression mold is unheated upon introduction of the powder.

16. (ORIGINAL) The method of claim 1, wherein the compression mold is heated after introduction of the powder.

17. (ORIGINAL) The method of claim 16, wherein the compression mold is not heated during compressing.

18. (ORIGINAL) The method of claim 1, wherein the compression mold is heated prior to introduction of the powder.

19. (ORIGINAL) The method of claim 18, wherein the compression mold is heated after introduction of the powder.

20. (ORIGINAL) The method of claim 18, wherein the compression mold is not heated during the application of pressure.

21. (ORIGINAL) The method of claim 1, wherein the compression mold is a die of an extruder.

22. (ORIGINAL) The method of claim 1, wherein the article is a single phase compact.

23. (WITHDRAWN) The method of claim 1, wherein the article is a multi phase compact.

24. (ORIGINAL) The method of claim 1, wherein the poly(arylene ether) powder comprises about 5 to about 70 volume percent, based on the total volume of poly(arylene ether) powder, of particles having a particle size less than about 100 micrometers.

25. (ORIGINAL) The method of Claim 1 wherein the poly(arylene ether) powder has an average particle size of about 50 to about 1500 micrometer.

26. (ORIGINAL) The method of Claim 1 wherein the compaction equipment is a confined pressure device.

27. (WITHDRAWN) The method of Claim 1 wherein the compaction equipment is an extrusion device.

28. (ORIGINAL) A method for compression molding of poly(arylene ether) powder to produce an article, comprising:

introducing a mixture comprising a binder and poly(arylene ether) powder to compaction equipment comprising a compression mold;

subjecting the mixture in the compression mold to a pressure sufficient to form an article having a density greater than the poly(arylene ether) powder wherein said pressure is applied at a temperature less than the glass transition temperature of the poly(arylene ether).

29. (ORIGINAL) The method of claim 28 wherein the binder is heated prior to blending with the poly(arylene ether) powder.

30. (ORIGINAL) The method of claim 28, wherein the binder is in solution and the mixture is subjected to devolatization prior to being subjected to pressure.

31. (ORIGINAL) The method of claim 28, wherein the poly(arylene ether) powder comprises about 5 to about 70 volume percent, based on the total volume of poly(arylene ether) powder, of particles having a particle size less than about 100 micrometers.

32. (ORIGINAL) A method for compression molding of poly(arylene ether) powder, comprising :

introducing an unheated poly(arylene ether) powder to compaction equipment comprising a compression mold;

subjecting the unheated poly(arylene ether) powder in the compression mold to a pressure sufficient to produce an article having a density greater than the unheated poly(arylene ether) powder wherein said pressure is applied at a temperature less than the glass transition temperature of the poly(arylene ether).